

IOWA

WATER QUALITY/WATERSHED PROTECTION PROJECT APPLICATION

Application Number:

Date Received: [April 16, 2007](#)**Project Title:** Walnut Creek Watershed Quality Improvement Project**District(s) Submitting Application:** Poweshiek Co. SWCD

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Total Funding Requested for the Life of the Project: \$602,795**Project Executive Summary:**

Walnut Creek is a Class B (LR) warm water stream located in northern Poweshiek County. From the headwaters to the confluence with North Walnut Creek, the creek measures sixteen miles in length and encompasses approximately 26,223 acres of watershed area draining into the Middle-Iowa river basin. Walnut Creek is listed on the 2002, 2004, and draft 2006 impaired waters list as biologically impaired with no identified cause. The impairment is based on results of biological monitoring and no specific causes and/or sources of the impairment have been identified. This project is of particular significance to the Poweshiek SWCD and the state of Iowa because it is an impaired waterbody and water quality protection efforts and solutions can be implemented that will address this impaired waterbody.

The Poweshiek SWCD received a watershed development grant in 2003 and 2004 to complete a comprehensive watershed assessment for the watershed draining to the impaired segment (15,000 acres). The assessment methodology utilized protocols developed by NRCS, IDALS/DSC, and the IDNR. This methodology included sediment delivery calculations for sheet and rill erosion, Rapid Assessment of Stream Corridor Along Length (RASCAL), and a landowner survey to gauge interest in the project. Results of the assessment indicate that erosion and sediment delivery from cropland and lack of adequate buffers along the stream channel and tributaries contribute significant sediment loading to Walnut Creek, likely contributing to the impairment. An estimated 23,224 tons of sediment and 30,191 pounds of phosphorus are delivered annually to Walnut Creek from sheet and rill erosion. 9,003 acres, or 34% of land in the watershed, is delivering approximately 66% of the total sediment to Walnut Creek. Other factors contributing to the water quality problems include livestock access to the stream and tributaries, and streambank erosion on the lower end of the watershed.

The goal of the Walnut Creek Water Quality Project is to install Best Management Practices (BMPs) on priority land within the Walnut Creek watershed. This goal is based on efforts to remove this waterbody from the impaired waters list by improving the aquatic environment. More specific objectives are: 1) Reduce sediment delivery by 3,205 tons and associated phosphorus delivery by 4,167 pounds, and, 2) Develop an information and education program aimed at producers and residents within the watershed. Based these objectives, the Poweshiek SWCD has identified multiple BMPs that need to be installed in targeted areas of the watershed to address the problems identified above. Proposed structural BMPs will be installed on priority land delivering over one ton of sediment annually to Walnut Creek. These practices include: 4,500 feet of terraces, 11 grade stabilizations structures and ponds, 33 acres of waterways,

180 acres of grazing systems, 18 acres of buffers and filter strips, 32 water and sediment basins, and 425 feet of streambank stabilization. I&E activities will include, one on one landowner contacts, news releases, field days, and IOWATER volunteer monitoring.

The Poweshiek SWCD initially proposes a three-year water quality project. Activities identified in this proposal are based on realistic goals utilizing a full time project coordinator and existing office staff. Cost estimates and acres treated in this proposal are based on estimates from previous practices installed in Poweshiek County. The District has prioritized the Walnut Creek watershed for EQIP funding. Practices will be cost shared using 50% EQIP funds and 25% 319, WPF, WSPF funds received through this application. Project accomplishments will be based on load reductions and goals completed. Load reduction calculations will be completed using the sediment and erosion delivery procedure and GIS analysis. Total estimated cost of this project is \$720,755. The Poweshiek SWCD is requesting \$602,795 in this application to implement the objectives outlined in this proposal.

This application has been reviewed and approved by the Poweshiek County SWCD Commissioners.

_____, District Chair
M. J. Kennett

PART I – BACKGROUND INFORMATION

Water Resource

Walnut Creek is a Class B (LR) warm water stream located in northern Poweshiek County and includes parts of Chester, Madison, Jefferson, and Sheridan Townships. From the headwaters to the confluence with North Walnut Creek, the creek measures sixteen miles in length and encompasses approximately 26,223 acres of watershed draining into the Middle-Iowa river basin. The warm water stream provides habitat for aquatic species and limited use for human recreation activities such as fishing and swimming.

Landuse within the Walnut Creek watershed is dedicated to agricultural production and dominated by row crops with a limited amount of pasture and CRP land. Approximately 64% of the watershed is classified as highly erodible land with the bulk of that land used for row crop production. The watershed is characterized by small riparian widths next to the stream and tributary channels. Several livestock producers with open grazing cattle allow unlimited access to the stream while using it as a water source. Multiple other cow/calf operations are located on tributaries to Walnut Creek with very limited management on these acres.

The Walnut Creek watershed also includes Holiday Lake, a 122 acre, privately owned lake that has approximately 1,036 acres of watershed. The incorporated area of the lake comprises 755 acres, with 870 lot owners, of which 300 are permanent residents. The Lake is managed by the Holiday Lake Association. Holiday Lake measured 42 feet at its greatest depth after construction in 1962. Currently, the lake measures 32 feet at its greatest depth, pointing towards significant sediment loss within the watershed over the past 45 years. The Poweshiek SWCD recently received Watershed Improvement Review Board (WIRB) funds to address nonpoint source water quality issues within the Holiday Lake watershed; therefore, this application is not requesting additional dollars through this application.

Water Quality Problems

Walnut Creek is listed on the 2002, 2004, and draft 2006 impaired waters list for as biologically impaired with no identified cause (See Map 1, Impaired Segment). The impairment is based on results of biological monitoring where specific causes and/or sources of the impairment have not yet been identified. Biological data collected by the IDNR in 2004 supports the impaired waters listing. The Benthic Macroinvertebrate Index of Biotic Integrity (BMIBI) score of 24 falls in the “Poor” category and the Fish Index of Biotic Integrity (FIBI) netted a score of 41, which is classified as “Fair”. Streams with BMIBI scores of less than 30 indicate that the macroinvertebrate community is severely impaired. This is characterized by low numbers of taxa present, lack of sensitive species, unbalanced aquatic communities (dominated by a few pollution tolerant species) with some Trophic functional feeding groups not represented, and species that are tolerant of organic enrichment and/or excessive sediment loads are dominant. Data that was collected in 1999 also supports the 2002 impaired waters listing. Walnut Creek was assessed in 2002 as partially supporting overall use and aquatic life –based on the 1999 Fish IBI score of 24 (poor), and the Benthic Macro-Invertebrate IBI score of 57 (good).

In an effort to identify the potential causes of the impairment, the Poweshiek SWCD applied for and received a development Grant through DSC in 2003 and 2004. Assessment results indicate that the predominant source of sediment delivery to the stream is from sheet and rill erosion stemming from highly erodible cropland. Using GIS, field observations and the RUSLE soil loss equation, sheet and rill erosion was estimated to be 122,334 tons/year (See Sheet & Rill Erosion Map in Appendix), and sediment delivery at 23,224 tons/year (See Estimated Sediment Delivery Map in Appendix) for the Walnut Creek watershed. Average sheet and rill erosion was calculated at 4.67 t/ac/yr.

A Rapid Assessment of Stream Corridor Along Length (RASCAL) was completed along the 16 mile reach of the Walnut Creek watershed. The following is a general description/analysis of the data: Walnut Creek is heavily influenced by tile drainage likely creating flashy peak flows and very low base flow during drier periods of the summer and winter. Much of the stream has had past channel alterations, specifically channelization, that occurred many years ago. This has likely had a significant effect on the lack of hydrologic variability or presence of pools, riffles, and runs throughout the stream reach. The upper stream was classified as a run and the lower end as riffle consisting of few pools. However, the overall depth was adequate to support aquatic life. In general, stream habitat conditions were good and provided multiple microhabitats suitable for aquatic organisms. The lower half of the stream substrate was dominated by gravel and sand while the upper half was silt and mud, likely derived from upland sheet and rill erosion. Streambanks increased in height progressively downstream and are moderately stable to stable on the vast majority of the stream with the exception of a few points in the upper reaches and lower four miles of Walnut Creek. Riparian conditions along the bulk of the stream channel were not adequate and emphasis should be placed on expanding the buffer widths along the channel and tributaries. Livestock access to the stream was limited to three segments; however they are likely having an impact on some of the tributaries as well. In general, the sediment delivery models reflect significant sediment contributions from upland areas being deposited into Walnut Creek.

A more in-depth analysis of the RASCAL data was completed and four critical factors that impact the stream were identified. These factors were chosen based on the whether they could be impacted if a project was implemented within the watershed and include: (1) Streambank Stability, (2) Depositional Environment (substrate), (3) Adequate Buffers, and (4) Livestock Access. The data was further refined to break the stream into 13 different segments labeled A through M. Each segment indicates a major change within the four critical factors identified by the local work group. A description of each of each segment is included followed by proposed BMPs to address the segments problems (See attached maps: Stream Segments, Description of Segments, and BMPs Proposed).

The United States Geological Survey (USGS) has maintained a gauging station just below the impaired segment of the creek near Hartwick, Iowa and reports data from 1949 to 2003 indicating increasing trends in

both annual mean stream flow, and average peak flows in the creek. Assessment data supports this based on the altered stream channel (past dredging), over 158 tiles outleting into the stream, and the change in landuse over the years from infiltrating grassed based rotations to continuous row cropping systems. These human influences have led to flashy peak flows, and reduced base flows of the stream, likely contributing to the impairment, and causes of the impairment.

Quantify Current Level of Pollutant Loading

Although Walnut Creek is an impaired stream, a TMDL has not been written nor is one scheduled. If the IDNR intends to complete a TMDL during the life of this project, specific pollutant loads will be quantified and incorporated into the projects load reduction goals.

Sediment delivery calculations were estimated using the DSC, DNR, and NRCS protocol using visual observations and the tablet computer. Total sediment delivery from sheet and rill erosion is 23,224 tons annually. Associated phosphorus attached to the sediment delivered to Walnut Creek is 30,191 lbs (1.3 lbs. P/Ton of sediment) annually.

While there is no quantitative data for all nutrient and bacteria levels in the stream, assessment observations indicate potentially high levels of nutrients stemming from 158 tile outlets, runoff from adjacent rowcrop land, and run-off from cow/calf operation with access to Walnut Creek. Additional biological data collected by the IDNR has determined that the waterbody has a biological impairment indicating that nonpoint source pollution is likely causing the problem. RASCAL data also indicates that sediment deposition in the upper reaches of the stream likely limits macroinvertebrate and fish population establishment as compared to other reference streams within the region.

Watershed Characteristics

There are approximately 230 agricultural landowners in the Walnut Creek watershed on 21,622 acres of farmland. Over 64% of the watershed is classified as Highly Erodible Land and 69% of the watershed is in row crops. Row crop fields appear heavily tilled with low levels of residue. NRCS has recently documented that sod-busts (land not previously farmed) are occurring frequently in this watershed. Several large, steep fields that were grass in January 2004, have since been plowed. These may have been CRP contracts that were not renewed. Grazing on most pastures is continuous with minimal nutrient management. Existing practices such as grassed waterways, basins, CRP buffers and grade stabilization structures, are currently installed. However, these practices need to be utilized more frequently to better control erosion and nutrient runoff.

Soils

The dominate upland soil type is a Tama-Kilduff association, which is 45% Tama, and 23% Kilduff. These silty, clay, loam soils have medium surface runoff and are prone to erosion. The second most common soil type on the upland is Downs-Tama-Shelby. Both of these soils naturally tend to have many places where water seeps on the side slopes. Subsurface drains are very beneficial in these areas. Most of the lowland soils are a Colo-Nodaway association

Land Use in Walnut Creek (See Land Cover Map in Appendix)

Landcover	Acres	Percent of Watershed
* Rowcrop	18,164	69.2 %
* Grassland	1,735	6.6 %
Pasture	1,631	6.2 %
* CRP	1,001	3.9 %
House/Farmstead/Urban	997	3.8 %
Forest	902	3.4 %
* Alfalfa	722	2.8 %
Road	511	2 %
Shrub/Grass	342	1.3 %
Water	169	.6 %
Wildlife Area	31	.1 %
Feedlot	19	.07 %
TOTAL	26,223	100%
* farmland	21,622	82%

Livestock operations observed within the watershed:

	Less than 10 head	10-20 Head	20 – 50 Head	50 – 100 Head	Over 200 head
Cow/Calf		8	12	2	
Dairy				1	
Cattle Feedlot					1
Hog Confinement					2
Open Hog Lot					1
Horses	3	1		1	
Sheep	1		1		

Livestock numbers in the watershed are mostly comprised of open grazing cow/calf operations. Two hog confinement facilities exist within the watershed and both of them utilize a nutrient management plan when applying manure. There is one open hog feedlot, and one open cattle feedlot in the watershed. The SWCD will utilize the EQIP program to work with these producers if they have interest in developing ag waste management systems.

Practices needed to protect Water Quality

To fully treat the 9,003 acres of priority land delivering sediment at greater than one ton/ac annually to Walnut Creek, (15,387 ton reduction in sediment delivery) the estimated cost would be \$2.5 million. The Poweshiek SWCD understands that it is unrealistic to expect 100% participation from landowners and that nonpriority land will be treated along with priority land. The practices and numbers listed below are based on 100 percent participation and assuming that non priority land is not treated, based on the nature of the practice.

4,500 feet of terraces
 11 Grade stabilization structures /ponds
 32 Water and sediment basins
 33 acres of waterways
 180 acres of managed grazing systems
 18 acres of buffers and filter strips
 425 feet of streambank stabilization

PART II – WATER QUALITY PROTECTION PLAN

Project Goals and Objectives

The goal of the Walnut Creek Water Quality Project is to reduce sediment delivery by installing BMPs on priority land within the Walnut Creek watershed. This goal is based on efforts to remove this waterbody from the impaired waters list by improving the aquatic environment. More specific objectives are:

- 1) Reduce sediment delivery** by 3,205 tons and associated **phosphorus delivery** by 4,167 pounds
- 2) Develop an Information and Education program** aimed at producers and residents within the watershed.

Project Description

This project will be implemented through the Poweshiek Soil & Water Conservation District over a three year period and advised by participating agencies and the Watershed Advisory Board. Activities will be carried out by a full time project manager that will coordinate implementation and promotional efforts with the agencies, individuals, and organizations involved.

The Poweshiek County Soil and Water Conservation District has already had some initial success in establishing a positive relationship and presence with the landowners in this watershed. There were two surveys conducted by mail. The first survey in 2003 received a 21% response of the surveys mailed to the eastern segment of Walnut Creek watershed. Of those that responded, 45% were interested in installing a conservation practice or system on their land. In the second, 2005, survey there was a 30% response that showed 85% of landowners in the entire watershed that were interested in installing some type of conservation practice or system. With these landowner contacts already under way, much more can be done to protect and improve water quality with the additional implementation of BMPs, and an effective, ongoing information and education outreach program.

Proposed BMPs

To achieve a realistic goal of 3,205 tons reduction of sediment delivery to Walnut Creek, the following practices and amounts have been proposed for a three-year project period. Structural practices will be installed on priority land delivering over one ton/acre of sediment annually to Walnut Creek. Other practices such as buffers, grazing systems, streambank stabilization will be installed along the riparian area of Walnut Creek and its tributaries.

4,500 feet of terraces are needed to treat approximately 26 acres of priority land delivering sediment at greater than one ton/acre annually. Estimated reduction of sediment and phosphorus delivery is 52 tons annually and 67 pounds annually. Estimated cost of this practice is \$18,675. The District will utilize EQIP funding at 50% (\$9,338) and is requesting 25% (\$4,669) cost share from this application. Landowners will contribute the remaining 25% (\$4,669).

11 Grade stabilization structures /ponds are needed to treat approximately 188 acres of land delivering sediment at greater than one ton/acre annually. Estimated reduction of sediment and phosphorus delivery is 376 tons annually, and 489 pounds annually. Estimated cost of this practice is \$153,560. The District will utilize EQIP funding at 50% (\$76,780) and is requesting 25% (\$38,390) cost share from this application. Landowners will contribute the remaining 25% (\$38,390).

32 Water and sediment basins are needed to treat approximately 96 acres of priority land delivering sediment at greater than one ton/acre annually. Estimated reduction of sediment and phosphorus delivery is 192 tons annually, and 250 pounds annually. Estimated cost of this practice is \$77,760. The District will utilize EQIP funding at 50% (\$38,880) and is requesting 25% (\$19,440) cost share from this application. Landowners will contribute the remaining 25% (\$19,440).

33 acres of Waterways are needed to treat approximately 1,254 acres of priority land delivering sediment at greater than one ton/acre annually. Estimated reduction of sediment and phosphorus delivery is 2,508 tons annually, and 3,260 pounds annually. Estimated cost of this practice is \$196,350. The District will utilize EQIP funding at 50% (\$98,175) and is requesting 25% (\$49,088) cost share from this application. Landowners will contribute the remaining 25% (\$49,088).

180 acres of managed grazing systems will be established to control access to the stream and tributary channels. Estimated cost of this practice is \$6,120. The District will utilize EQIP funding at 50% (\$3,060) and is requesting 25% (\$1,530) cost share from this application. Landowners will contribute the remaining 25% (\$1,530).

18 acres of buffers that include riparians, filter strips, and contour buffers will be established on eligible land. Estimated cost of this practice is \$5,940. Estimated reduction of sediment and phosphorus delivery is 27 tons annually, and 35 pounds annually. The District will utilize CCRP funding at 90% (\$5,346) and landowners will contribute the remaining 10% (\$594).

425 feet of streambank stabilization will be constructed on the main channel of Walnut Creek. Estimated cost of this practice is \$17,000. Estimated reduction of sediment and phosphorus delivery is 50 tons annually, and 65 pounds annually. The District is requesting 75% (\$12,750) cost share from this application. Landowners will contribute the remaining 25% (\$4,250).

Proposed I & E Activities

- Develop an IOWATER volunteer water monitoring program in the watershed. Results will be posted on the IOWATER database and data will be analyzed for trends in water quality.
- Three field days will be sponsored by the Poweshiek SWCD for landowners and residents within the watershed. One field day will be held annually. Topics may include grazing management systems, buffer programs, and benefits of various BMPs in relation to water quality and soil erosion.
- Six newsletters will be developed and distributed to residents and landowners with the watershed. Topics will include cost share programs available for BMP installation, volunteer monitoring information, benefits of BMPs, highlights of specific landowner practices, and sediment loading reductions achieved among other things.
- One on one contact with landowners owning high priority land, cow/calf operators, eligible buffer acres, and open feedlot owners.

Link to the Iowa Non-point Source Management Program

This project relates to the priority activities listed in the NPSMP by addressing a water body that is included on Iowa's 303(d) list and it having a goal to improve water quality within Walnut Creek. This project is meets the criteria for "other waters" in the NPSMP because the stream is being impacted by nonpoint source pollution that is "controllable" and if the project is implemented, significant reductions in pollutant loads can be verified and the public will be benefited.

Link to Status of Total Maximum Daily Load (TMDL), and Development

This project relates to the priority activities listed in the NPSMP by addressing a water body that is included on Iowa's 303(d) list and it has a goal to improve water quality within Walnut Creek. A TMDL is not scheduled at this time. The DNR TMDL staff has expressed interest in working with the Poweshiek SWCD to develop a watershed management plan. If a TMDL is developed during this project's time period, adjustments will be made to the projects goals according to the TMDL results and the advisory committee recommendations.

Schedule: Y1, Q1 project activities will begin in January of 2008

Project Activities	Y1 Q1	Y1 Q2	Y1 Q3	Y1 Q4	Y2 Q1	Y2 Q2	Y2 Q3	Y2 Q4	Y3 Q1	Y3 Q2	Y3 Q3	Y3 Q4
Project Planning												
Hire Staff	x											
Develop Advisory Board	x	x	x									
Priority landowner contacts	x		x		x		x		x		x	
BMP Implementation												
Grade Stables/ponds	x	x		x	x	x		x	x	x		x
Sed. Basins	x	x		x	x	x		x	x	x		x
Waterways	x	x		x	x	x		x	x	x		x
Terraces	x	x		x	x	x		x	x	x		x
Buffers				x	x			x	x			x
Grazing Systems	x	x	x	x	x	x	x	x	x	x	x	x
Streambank Stabilization							x				x	
I &E Activities												
News Releases	x		x		x		x		x		x	
Field Days			x				x				x	
IOWATER	x	x	x	x	x	x	x	x	x	x	x	x
One on one contact	x	x	x	x	x	x	x	x	x	x	x	x
Administrative												
Annual Work Plans		x				x				x		
Reports	x	x	x	x	x	x	x	x	x	x	x	x
Assessment												
GIS analysis/updates			x				x				x	x
Load Reduction Calculations	x	x	x	x	x	x	x	x	x	x	x	x

Measures of Success

Measures of success will be based on the following criteria:

- Percentage of goals completed in relation to BMPs installed
- Load reduction calculations using the sediment delivery calculator
- Number of participants involved with the IOWATER monitoring program
- Number of landowners and residents reached through newsletters, one on one contacts, and field days
- Priority acres treated through BMP implementation

Evaluation and Feedback Mechanisms

Methods used to evaluate the project include:

- Percent of goals completed compared to annual work plans
- Evaluation of progress at annual project meetings and regular Advisory Board meetings
- Completion of monthly, quarterly, and annual reports
- Annual load reduction calculations

Participating agencies and organizations:

Poweshiek County SWCD	Financial/Technical support
Poweshiek County Extension	Technical Support
Poweshiek County Board of Supervisors	Technical Support
IOWATER	Technical Support
NRCS	Financial/Technical Support
Farm Service Agency	Financial/Technical Support
IDALS/DSC	Financial/Technical Support
DNR	Financial/Technical Support
Pheasants Forever	Financial Support
Iowa Valley RC&D	Technical Support

Project Reports

Reports will be completed on a monthly, quarterly, and annual basis. Annual workplans and budgets will be submitted upon request by the fundor. Monthly reports and updates will also be provided at regularly scheduled commissioner and Watershed Advisory Board meetings. All reports will include the required information needed for the 319/WPF/WSPF programs and will include materials developed for information and education activities.

Project Costs and Funding Sources

EQIP funds will be utilized whenever possible to provide 50% of the available cost-share which will enable us to utilize 25% cost-share with 319/WPF/WSPF funds to make the installation of these conservation practices more attractive to landowners. This commitment, on behalf of the District, is based on the assumption that current EQIP funding levels, and the ability to prioritize these funds at the local level, will continue throughout the life of this project. We request 319, WPF, and WSPF for financial cost-share incentives, travel and training expenses for the project coordinator, and information and education activities. Detailed project budgets are attached.

EPA Required Elements of Watershed Plan	Page or location in the Application
1. Identification of the causes and sources that will need to be controlled to achieve the load reductions estimated in this plan (Sources that need to be controlled should be identified at the significant subcategory level with estimates of the extent to which they are present in the watershed; i.e., X number of cattle present, Y acres of row crop needing nutrient management or sediment control, Z miles of streambank needing stabilization, etc.).	Pages 3, 4, & 5
2. An estimate of the load reductions expected for the management measures implemented below (number 3) to address items identified above (number 1)	Pages 6 & 7
3. Description of NPS management measures need to be implemented to achieve load reductions (number 2) and an identification of critical areas (map or narrative)	Pages 5, 6, & 7
4. Estimate of financial and technical assistance needed	Pages 7, 8, & 9, and Budget Summary
5. Identification of an information/education component	Page 7
6. A schedule	Page 8
7. Description of interim, measurable milestones for determining whether NPS management measures or control actions are being implemented	Page 9
8. Set of criteria to be used to determine whether load reductions are being achieved	Page 9
9. A monitoring component to evaluate effectiveness of the implementation efforts	Page 9

WATER QUALITY PROJECT BUDGET SUMMARY FORMAT*
(Funding requested from **Section 319, WPF and/or WSPF**)

Budget Category	Project Funding					
	Year 1	Year 2	Year 3	Year 4	Year 5**	TOTAL
Personnel	61,500	65,800	69,500			196,800
Fringe Benefits	13,750	14,800	15,650			44,200
Travel	750	750	750			2,250
Training						
Supplies	200	200	200			600
Equipment						
Contractual Services						
Financial Incentives and Cost-Share	43,571	43,571	38,724			125,866
Other***	500	500	500			1,500
TOTAL	120,271	125,621	125,324			371,216

*Additional, more detailed yearly budgets will be necessary to show itemization of all best management practices or other activities in more detail. Please also provide these additional, more detailed budgets (see Attachment 5)

**Projects can be proposed to be 1-5 years long for Section 319 and/or WPF funding. Projects for WSPF can be proposed to be 1-3 years long.

*** Information and Education activities

WATER QUALITY PROJECT BUDGET SUMMARY FORMAT*
 (Contributions from **Other Agencies and Organizations**)

Budget Category	Project Funding					
	Year 1	Year 2	Year 3	Year 4	Year 5**	TOTAL
Personnel						
Fringe Benefits						
Travel						
Training						
Supplies						
Equipment						
Contractual Services						
Financial Incentives and (EQIP) Cost-Share	78,143	78,143	69,948			226,234
Other***	40,769	40,769	36,422			117,960
TOTAL	118,912	118,912	106,370			344,194

*Additional, more detailed yearly budgets will be necessary to show itemization of all best management practices or other activities in more detail. Please also provide these additional, more detailed budgets (see Attachment 5)

**Projects can be proposed to be 1-5 years long for Section 319 and/or WPF funding. Projects for WSPF can be proposed to be 1-3 years long.

*** Landowner Contribution

Appendix to Walnut Creek Watershed Quality Improvement Project

Map 1Overview of Impaired Segment of Walnut Creek

Map 2Estimated Sheet & Rill Erosion

Map 3Estimated Sediment Delivery

Map 4.1Stream Segments of Walnut Creek

Worksheet 4.2Description of Stream Segments of Walnut Creek

Worksheet 4.3BMPs on Stream Segments of Walnut Creek

Map 5Land Cover showing Land Use